

DETAILED ACTION

Remarks

1. Claims 20-39 are pending in this application. Claim 40 has been cancelled.

Response to Arguments

2. Applicant's arguments filed 02/18/2010 have been fully considered but they are not persuasive.

On page 9, 3rd paragraph, of the Applicant's Response, applicant argues that "Ferris discloses APIs that may use XML to connect with and utilize the features of an overall wireless network. It does not disclose the use of XML specifically for base station operations. The use of external APIs for access into a wireless network are entirely unrelated and irrelevant to resources connected to a monitor in a base station for performing functions and executing programs using tasks stored in XML", with the corresponding teaching indicating the arguments and the arts references below, the Examiner respectfully disagrees.

Ferris discloses a digital wireless base station which is programmed with a virtual machine layer enable one or more baseband processing data flows using high level software (Abstract; paragraph [0007]). Specifically, Ferris discloses the tasks are stored in an XML format to perform a function and executing a program (paragraph [0042]). During patent examination, the claims must be given their broadly reasonable interpretation. See MPEP 2111. The term "the tasks are stored in an Extensible Markup Language (XML) format" is broadly claimed; therefore, it is broadly interpreted.

Furthermore, on pages 8-9, of the Applicant's Response, applicant argues that "The difference between XML and HLPL (high level programming language) is that before a HLPL

Art Unit: 2617

text document can be used as a program in a base station, it must first be compiled, linked with a specific resource environment of a single target base station and then has to be altered to become a loadable object for that base station. Such is not the case with respect to the present invention. In the present invention, the XML text document is directly stored in the memory as it was created. The XML enabled base station interprets the XML directly and no compile link and load stages are required. This has significant advantages over the use of a HLPL for, inter alia, debugging as one sees the actual defining text going by when processed”, with the corresponding teaching indicating the arguments and the arts references below, the Examiner respectfully disagrees. Ferris discloses a high level language such as Java, without compile link, can link the modules together to run on a particular platform (paragraph [0244]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to understand that using Java or XML directly stored in the memory to perform a function and execute a program.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 39 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. This claim is drawn to a “computer program product embodied on a computer readable medium” comprising means to store instructions. The specification exemplifies the computer readable medium as a data carrier (see Spec. page 3 lines 28-29). A transitory signal (a data carrier) does not fall within the definition of a process, machine,

Art Unit: 2617

manufacture, or a composition of matter; therefore, claim 39 does not fall within a statutory category.

Claim 39 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. This claim is drawn to a “computer program product embodied on a computer readable medium” comprising means to store instructions. In the state of the art, transitory signals are commonplace as a medium for transmitting computer instructions and thus, in the absence of any evidence to the contrary and given the broadest reasonable interpretation, the scope of a “computer readable medium” covers a signal per se. A transitory signal does not fall within the definition of a process, machine, manufacture, or a composition of matter; therefore, claim 39 does not fall within a statutory category.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 39, the newly added limitation "embodied on a computer readable medium configured" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. In the Remarks filed on 2/18/2010, Applicant stated that claim 39 has been amended to overcome the US 101 rejection (see Remarks: page 8, 1st full paragraph). However, the specification fails to describe the specific limitation of "embodied on a computer readable medium configured" as claimed and, therefore, the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is welcomed to point out where in the specification the Examiner can find support for this limitation if Applicant believes otherwise.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 20, 22-32, 36-37, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferris (US 2003/0008684; Cited in IDS).

Regarding claims 20 and 37, Ferris discloses a radio base station (Abstract; paragraphs [0002], [0006], [0013]) and a method of operating a radio base station comprising:

a monitor (paragraphs [0004], [0044], e.g., screen);

a memory (Fig. 2, reference "SDRAM"; paragraph [0130], e.g., memory and CPU), the memory being connected to the monitor (Fig. 2) and arranged for storing tasks and data (Fig. 2; paragraphs [0016], [0041], [0053], [0130], e.g., The GBP is a powerful hardware platform

Art Unit: 2617

designed to provide the MIPs and throughput required for wireless communication digital signal processing tasks); and

one or more resources (paragraphs [0017], [0020], e.g., processor), each of the resources being connected to the monitor (Fig. 2) and arranged for at least one of performing a function (paragraphs [0052], [0109], [0132], e.g., its functions will involve boot control, peripheral and processor card configuration, and remote monitoring support, in addition to provision of the bus-mastering fast Ethernet IP interface onto the backnet for incoming and outgoing Iub messages) and executing a program (paragraphs [0052], [0102], e.g., they can be implemented by micro-processors and programmed computers. The term 'DSP' used in this specification covers any device or system, whether in software or hardware, or a combination of the two, capable of performing digital signal processing), wherein the tasks are stored in an Extensible Markup Language (XML) format (Abstract; paragraph [0004], [0007], [0016], [0042], [0044], e.g., XML or using high-level software).

Regarding claim 22, Ferris discloses the radio base station according to claim 20 above, wherein connections between the memory and the monitor, and between the resources and the monitor are implemented by means of a bus (paragraphs [0171], [0201], e.g., Bus contention (two or more processors wanting to transfer data at the same time) can also reduce overall efficiency).

Regarding claim 23, Ferris discloses the radio base station according to claim 22 above, wherein the resources are arranged for mutual communication via the bus (paragraphs [0007], [0024], [0041], e.g., a PCI-bus).

Regarding claim 24, Ferris discloses the radio base station according to claim 23 above, wherein using the bus is based on a datagram principle (paragraphs [0042], [0081], [0110], e.g., IP packet data; therefore it is a datagram principle).

Regarding claim 25, Ferris discloses the radio base station according to claim 20 above, wherein the memory comprises a task memory (paragraphs [0059], [0102], e.g., physical board or integrated circuits) and a data memory (paragraphs [0107], [0142], [0186], [0227], e.g., Extensive set of vector-processing primitives (more completely listed at Appendix 2), covering operations such as FFTs, FIR and IIR and wave digital filters, decimation, correlation, complex multiplication, etc).

Regarding claim 26, Ferris discloses the radio base station according to claim 20 above, wherein the monitor comprises a state machine sequencer adapted to handle several state machines in parallel (paragraphs [0178], [0237], [0244], e.g., The CVM provides support for the structures (e.g., symbol and data-directed pipelines, and state machines)).

Regarding claim 27, Ferris discloses the radio base station according to claim 26 above, wherein the memory comprises a read only memory (ROM) portion (paragraph [0236]) and a random access memory (RAM) portion (paragraph [00150]), the ROM portion adapted to store state machine definitions for the state machine sequencer, task definitions and default structures (paragraph [00237]), and the RAM portion adapted to store dynamic data (paragraphs [00150], [0166]).

Regarding claim 28, Ferris discloses the radio base station according to claim 27 above, wherein the RAM portion is adapted to store a resource allocation table (paragraphs [163], [0188]), a data block list (paragraphs [0212], [0223]), and data blocks (paragraphs [0059]).

Regarding claim 29, Ferris discloses the radio base station according to claim 28 above, wherein the monitor comprises an executor arranged for sending commands to resources (paragraphs [0011], [0040], [0054]), sending task block requests to memory (paragraphs [0011], [0040], [0054], [0176], e.g., The scheduler then dispatches the request to the appropriate datapath for execution, which may involve calling a function on a DSP, or passing data to an FPGA or ASIC), receiving status information from resources (paragraphs [0072], [0090]), receiving task blocks from memory and maintaining the resource allocation table (paragraph [0149], e.g., a scheduler in the CVM can intelligently allocate tasks in real-time to computational resources in order to maintain optimal operation).

Claim 30 is rejected with the same reasons set forth to claim 29.

Regarding claim 31, Ferris discloses the radio base station according to claim 20 above, wherein the resources comprises at least one selected from the group consisting of a transmitter, a receiver, an analog signal manifold, a digital to analog converter, an analog to digital converter, a control unit, and a digital signal processor (paragraph [0041], e.g., DSPs; It is noted that this claim is the alternative claim; therefore only a DSP limitation is addressed).

Regarding claim 32, Ferris discloses the radio base station according to claim 31 above, wherein the resources comprise at least one digital signal processor storing an executable image for performing a program (paragraph [0245], e.g., the processing chain is established on the model (which will optionally be performed by graphical arrangement and parameterisation rather than coding)).

Regarding claim 36, Ferris discloses the radio base station according to claim 20 above, as sued in a mobile communications network (paragraph [0001], e.g., A base station is a transceiver node in a radio communications system, such as UMTS (Universal Mobile Telephony System)).

Claim 39 is drawn to a computer program product adapted to be executed by a processor of a radio base station having a monitor, memory and one or more resources, the memory being connected to the monitor for storing XML defined tasks and data, each of the resources being connected to the monitor, the computer program product comprising code means for generating steps of claim 1. Therefore, the same rationale applied to claim 1 applies. In addition, Ferris inherently discloses a computer program product, i.e., given that Ferris discloses a process (paragraph [0071]), the process would be implemented by a processor that requires a computer program product, e.g., a RAM, to function.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21, 33-35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferris in view of Ghanea-Hercock (US 2004/0037423; Cited in IDS, same as WO 02/33547).

Regarding claims 21 and 38, Ferris discloses the radio base station and the method according to claims 20 and 37 respectively above, wherein the resources that are arranged to

Art Unit: 2617

execute a program are also arranged to generate trigger signals and send them to the monitor (paragraphs [0072], [0120],]e.g., status and alarm messages passed back from RF to GBP), and a timing/sync signal from GBP to RF module (to enable operations to be carried out relative to a particular time code)), the monitor being arranged to check whether resources required for performing the task are available (paragraphs [0061], [0084], [0124], e.g., if the same hardware platform becomes available with an upgraded specification, the code will still have to undergo a 'mini-port' to be able to use those additional features (more on-board memory, for example, or a second MAC (Multiply Accumulate) unit)) and sending commands to selected resources specifying the task to be performed (paragraphs [0016], [0090], [0114], e.g., SNMP messages will contain an RTP timestamp field allowing commands and messages to utilise the same timebase control as the sample datastream).

Ferris fails to specifically disclose the monitor being arranged to receive the trigger signals, to read one or more tasks related to the trigger signals from the memory.

However, Ghanea-Hercock discloses the monitor being arranged to receive the trigger signals, to read one or more tasks related to the trigger signals from the memory (paragraphs [0075], [0076], e.g., The task manager parses the provided task plan and schedules the necessary services and actions).

Therefore, taking the teachings of Ferris in combination of Ghanea-Hercock as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the monitor to receive the trigger signals, to read one or more tasks related to the trigger signals from the memory for advantages of performing to check whether each task attempted by the agent program conforms to the task data (Ghanea-Hercock: paragraph [0027]).

Regarding claim 33, Ferris discloses the radio base station according to claim 20 above, fails to specifically disclose wherein the XML defined tasks comprise bricks created with document template definitions.

However, Ghanea-Hercock discloses the XML defined tasks comprise bricks created with document template definitions (paragraph [0128], e.g., [0128] Below is the above message in an XML format. <DOCTYPE fipa_acl SYSTEM "fipa_acl.dtd">)

Therefore, taking the teachings of Ferris in combination of Ghanea-Hercock as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the XML defined tasks comprise bricks created with document template definitions in order to define and describe the elements and groups thereof and the order in which they are allowed to appear within XML document.

Regarding claim 34, Ferris discloses the radio base station according to claim 20 above, fails to disclose wherein the XML defined tasks comprise at least one of: task name, priority, definitions of resources required, definitions of channels between resources, definitions of data blocks to be used, definition of commands for resources, definitions of code segments to be used by processors of resources, and status of resources.

However, Ghanea-Hercock discloses wherein the XML defined tasks comprise at least one of: task name, priority, definitions of resources required, definitions of channels between resources, definitions of data blocks to be used, definition of commands for resources, definitions of code segments to be used by processors of resources, and status of resources (paragraphs [0106]-[0124], [0128]).

Therefore, taking the teachings of Ferris in combination of Ghanea-Hercock as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the XML defined tasks comprise at least one of: task name, priority, definitions of resources required, definitions of channels between resources, definitions of data blocks to be used, definition of commands for resources, definitions of code segments to be used by processors of resources, and status of resources in order to define and describe the elements and groups thereof and the order in which they are allowed to appear within XML document.

Regarding claim 35, Ferris in combination with Ghanea-Hercock discloses the radio base station according to claim 34 above, wherein the definitions of data blocks have the following structure definition:

STRUCTUREDEFINITION.DTD

<!ELEMENT structuredefinition (structurename, structureblock)>

<!ELEMENT structurename (# BLOCKNAME)>

<!ELEMENT structureblock (#TEXT)>

BLOCKLIST.XML

<structuredefinition>

<structurename> blocklist </structurename>

<structureblock>

"Contents of block in text"

</structureblock>

</structuredefinition> (Ghanea-Hercock: paragraph [0128], noted the message in an

XML format).

Therefore, taking the teachings of Ferris in combination of Ghanea-Hercock as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the definitions of data blocks have the following structure definition of document type (DTD) in order to define and describe the elements and groups thereof and the order in which they are allowed to appear within XML document.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **TIMOTHY PHAM** whose telephone number is (571)270-7115. The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Timothy Pham/
Examiner, Art Unit 2617

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit
2617